

WHAT IS CLAIMED IS:

1. An optically powered and optically data-transmitting wireless intraocular pressure sensor device for detecting excessive intraocular pressure above a predetermined threshold pressure, comprising a pressure switch that is sized and configured to be placed in the anterior chamber of an eye, wherein said pressure switch is activated when the intraocular pressure is higher than the predetermined threshold pressure.
2. The device of claim 1, wherein the pressure switch is a micro electromechanical system.
3. The device of claim 1, wherein the pressure switch is placed on the iris of an eye.
4. The device of claim 1, wherein the pressure switch is placed on an intraocular lens.
5. The device of claim 1, wherein the pressure switch is placed on a glaucoma tube.
6. The device of claim 1, wherein the pressure switch is powered by a solar cell system.
7. The device of claim 1, wherein the pressure switch is powered by a battery.
8. The device of claim 1, wherein the pressure switch comprises a first electrode and a second electrode mounted onto a compressible enclosure, the electrodes being sized, configured and positioned spaced apart when the intraocular pressure is lower than the predetermined threshold pressure, and wherein the first electrode contacts the second electrode to make a closed electric circuit when the intraocular pressure becomes higher than the predetermined threshold pressure.
9. The device of claim 8, wherein a timer is provided to record the time, date, and duration when the closed electric circuit is formed for signaling excessive intraocular pressure above the predetermined threshold pressure.

10. The device of claim 9 further comprising an optical readout from the timer.
11. The device of claim 10 further comprising a resettable pressure switch.
12. The device of claim 11 further comprising an external instrument having means for optically activating the optical readout.
13. The device of claim 12, wherein the external instrument comprises means for receiving the optical readout.
14. The device of claim 13, wherein the external instrument comprises means for monitoring ambient atmospheric pressure.
15. The device of claim 14, wherein the external instrument optically powers the device of claim 11.
16. The device of claim 15, wherein the external instrument allows the intraocular pressure data as well as the time, date, and duration data to be downloaded to a computer and/or PDA and to be transmitted over the Internet to a central location such as a physician's office.
17. An optically powered and optically data-transmitting wireless intraocular pressure sensor device for detecting excessive intraocular pressure above a plurality of predetermined threshold pressures, comprising a plurality of pressure switches that are sized and configured to be placed in the anterior chamber of an eye, wherein a first pressure switch is activated when the intraocular pressure is higher than a first predetermined threshold pressure.
18. The device of claim 17, wherein a second pressure switch is activated when the intraocular pressure is higher than a second predetermined threshold pressure.

19. The device of claim 17, wherein the pressure sensor device is a micro electromechanical system.
20. The device of claim 17, wherein the pressure sensor device is placed on the iris of an eye.
21. The device of claim 17, wherein the pressure sensor device is placed on an intraocular lens.
22. The device of claim 17, wherein the pressure sensor device is placed on a glaucoma tube.
23. The device of claim 17, wherein at least one of the plurality of pressure switches is powered by a solar cell system.
24. The device of claim 17, wherein at least one of the plurality of pressure switches is powered by a battery.
25. The device of claim 18, wherein the second predetermined threshold pressure is higher than the first predetermined threshold pressure.
26. The device of claim 17, wherein the first pressure switch comprises a pair of first electrodes mounted onto a first compressible enclosure, the pair of first electrodes being sized, configured and positioned spaced apart when the intraocular pressure is lower than the first predetermined threshold pressure, and wherein the pair of first electrodes contacts each other to make a closed electric circuit when the intraocular pressure becomes higher than the first predetermined threshold pressure.
27. The device of claim 26, wherein a timer is provided to record the time, date, and duration when the closed electric circuit is formed for signaling excessive intraocular pressure above the predetermined threshold pressure.

28. The device of claim 27 further comprising an optical readout system from the timer.
29. The device of claim 27 further comprising resettable pressure switches.
30. The device of claim 29 further comprising an external instrument having means for optically activating the optical readout.
31. The device of claim 30, wherein the external instrument comprises means for receiving the optical readout.
32. The device of claim 30, wherein the external instrument comprises means for monitoring ambient atmospheric pressure.
33. The device of claim 32, wherein the external instrument optically powers the device of claim 29.
34. The device of claim 33, wherein the external instrument allows the intraocular pressure data as well as the time, date, and duration data to be downloaded to a computer and/or PDA and to be transmitted over the Internet to a central location such as a physician's office.
35. A method for self-checking intraocular pressure of a patient comprising:  
    providing an optically powered and optically data-transmitting wireless intraocular pressure sensor device for detecting excessive intraocular pressure above a predetermined threshold pressure, wherein said device comprises an external instrument comprising means for receiving optical readout of detected excessive intraocular pressure; and  
    self-checking the detected excessive intraocular pressure by activating the external instrument by the patient.
36. The method of claim 35, wherein said sensor device comprises a pressure switch that is sized

and configured to be placed in the anterior chamber of an eye of the patient, wherein said pressure switch is activated when the intraocular pressure is higher than the predetermined threshold pressure.